

CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims

Claim 1 (previously presented): A chemical screening apparatus comprising:

(a) at least two different strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip; and

(b) a support frame for receiving and holding the strips for mutual exposure to a material to be screened.

Claim 2 (previously presented): The chemical screening apparatus of claim 1 wherein the strip has a length taken along the longitudinal axis of at least ten times the maximum cross-sectional dimension of the strip taken across the longitudinal axis.

Claims 3-4 (cancelled)

Claim 5 (previously presented): The chemical screening apparatus of claim 1 wherein the non-reactive strip is a glass fiber.

Claim 6 (previously presented): The chemical screening apparatus of claim 1 wherein the support frame holds the strips transversely spaced in parallel relationship.

Claim 7 (previously presented): The chemical screening apparatus of claim 1 wherein the support frame holds the strips transversely spaced along two perpendicular axes.

Claim 8 (previously presented): The chemical screening apparatus of claim 1 wherein the strips include isolating bands of a chemically repellant coating between the chemically reactive substances.

Claim 9 (previously presented): The chemical screening apparatus of claim 1 wherein the strips include recessed portions receiving the chemically reactive substances.

Claim 10 (previously presented): The chemical screening apparatus of claim 1 wherein the strips include a marker allowing the strips to be distinguished.

Claim 11 (previously presented): The chemical screening apparatus of claim 1 wherein the marker is selected from the group of printing and fluorescent material.

Claim 12 (previously presented): The chemical screening apparatus of claim 1 wherein the strips include a marker allowing a given end of the strip to be identified.

Claim 13 (previously presented): The chemical screening apparatus of claim 1 wherein the marker is selected from the group of printing and fluorescent material.

Claim 14 (withdrawn): A chemical screening apparatus comprising a strip of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, oligonucleotides exposed on a surface of the strip.

Claim 15 (withdrawn): The chemical screening apparatus of claim 14 wherein the strip has a length taken along the longitudinal axis of at least ten times the maximum cross-sectional dimension of the strip taken across the longitudinal axis.

Claim 16 (withdrawn): The chemical screening apparatus of claim 14 wherein the non-reactive strip is a glass fiber.

Claim 17 (withdrawn): The chemical screening apparatus of claim 14 wherein the strips include isolating bands of a chemically repellant coating between the chemically reactive substances.

Claim 18 (withdrawn): The chemical screening apparatus of claim 14 wherein the strips include recessed portions receiving the chemically reactive substances.

Claim 19 (withdrawn): The chemical screening apparatus of claim 14 wherein the strips include a marker allowing the strips to be distinguished.

Claim 20 (withdrawn): The chemical screening apparatus of claim 14 wherein the marker is selected from the group of printing and fluorescent material.

Claim 21 (withdrawn): The chemical screening apparatus of claim 14 wherein the strips include a marker allowing a given end of the strip to be identified.

Claim 22 (withdrawn): The chemical screening apparatus of claim 1 wherein the marker is selected from the group of printing and fluorescent material.

Claim 23 (withdrawn): A method of manufacture of strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip comprising the steps of;

- (a) affixing the strips in a frame to be transversely spaced in parallel relationship in a plane to expose at a plane, surface locations for the chemically reactive substances;
- (b) immersing the frame in a sequence of component solutions;
- (c) light activating the bonding of a substance of the component solution with the strips at a subset of the locations for each component solution; and
- (d) releasing the strips from the frame.

Claim 24 (withdrawn): A method of manufacture of strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip comprising the steps of;

- (a) positioning the strip to have different longitudinal portions positioned in adjacent volumes holding different component solutions;

(b) light activating the bonding of a substance of at least one of the component solutions with the strip at a location for at least one of the chemically reactive substances;

(c) repositioning the strip within the volumes of different component solutions;
and

(d) repeating steps (b) and (c) to create chemically reactive substances at the locations.

Claim 25 (withdrawn): The method of claim 24 wherein multiple strips are simultaneously positioned within the adjacent volumes to have light activated bonding of the component solution.

Claim 26 (withdrawn): The method of claim 24 wherein the volumes are separated by a multiple of the separation of the locations of the chemically reactive substances.

Claim 27 (withdrawn): The method of claim 26 wherein the strip is formed in a continuous loop to circulate through the volumes.

Claim 28 (withdrawn): A method of manufacture of strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip comprising the steps of;

(a) positioning a plurality of strips to pass through a volume bracketing a segment of the strips;

(b) fill the volume with component solution bonding onto the segments a portion of the chemically reactive substances;

(c) flush the volume of component solution;

(d) repositioning at least some of the strip within the volumes so that different segments are subtended; and

(e) repeating steps (b) and (c) with different chemical solutions to create the chemically reactive substances at the locations.

Claim 29 (withdrawn): The method of claim 28 wherein the strips are independently repositioned so that each strip may have different chemically reactive substances with respect to the others.

Claim 30 (withdrawn): A method of manufacture of strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip comprising the steps of;

(a) affixing the strips in a frame to be transversely spaced in parallel relationship in a plane to expose at a plane, surface locations for the chemically reactive substances;

(b) placing a mask material over the plane exposing a selected subset of locations;

(c) immersing the frame in a sequence of component solutions;

(d) repeating steps (b) and (c) for a plurality of masks and component solutions to create the different chemically reactive substances; and

(e) releasing the strips from the frame.

Claim 31 (withdrawn): A method of manufacture of beads of a non-reactive substrate supporting different, chemically reactive substances exposed on a surface of the strip comprising the steps of:

(a) preparing strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced at locations along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip by repeated exposure of the locations to different chemical materials in a predefined sequence; and

(b) cutting the strip between the locations to produce the beads.

Claim 32 (withdrawn): A method of screening chemical materials comprising the steps of:

(a) preparing at least two different strips of a non-reactive energy conductive substrates extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip;

(b) arranging the strips to cross at a read-out site;

(c) applying energy to at least one of the strips to promote an energetic interaction with a chemically reactive substance at the read-out site; and

(d) detecting energy at least one of the strip to detect the energetic interaction at the read out site.

Claim 33 (withdrawn): A method of promoting localized chemical reactions comprising the steps of:

(a) preparing least two different strips of a non-reactive energy conductive substrates extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip;

(b) arranging the strips to cross at a promotion site;

(c) applying energy to at least one of the strips to promote an energetic interaction with a chemically reactive substance at the promotion site causing the localized chemical reaction.

Claim 34 (previously presented): A semi-custom array for chemical screening comprising:

(a) at least two different strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip; and

(b) a support frame for receiving and holding the strips for mutual exposure to a material to be screened wherein the chemically reactive substances are selected from the groups consisting of: oligonucleotides and peptides.

Claim 35 (previously presented): A semi-custom array for chemical screening comprising:

(a) at least two different strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip; and

(b) a support frame for receiving and holding the strips for mutual exposure to a material to be screened wherein the strips include isolating bands of a chemically repellant coating between the chemically reactive substances.

Claim 36 (previously presented): A semi-custom array for chemical screening comprising:

(a) at least two different strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip; and

(b) a support frame for receiving and holding the strips for mutual exposure to a material to be screened wherein the strips include recessed pockets receiving the chemically reactive substances wherein the chemically reactive substances are selected from the groups consisting of: oligonucleotides and peptides.

Claim 37 (previously presented): A chemical screening device comprising:

(a) a plurality of filaments of a non-reactive substrate extending along a longitudinal axis and supporting at separated sites on the sides of the filaments chemically reactive substances, the sites spaced apart along the longitudinal axis so that the chemically reactive substances are exposed on the sides of the filaments, wherein the chemically reactive substances are selected from the groups consisting of: oligonucleotides and peptides; and

(b) a support frame for holding a set of filaments to allow the sides of the filaments between the ends of the filaments to be exposed to a material to be screened.

Claim 38 (previously presented): The chemical screening device of claim 37 wherein the filaments are glass fibers.

Claim 39 (previously presented): The chemical screening device of claim 37 wherein the frame holds the ends of the filaments and is open in the center allowing free passage of the material to be screened.

Claim 40 (previously presented): The chemical screening device of claim 37 wherein the support frame holds the filaments transversely spaced in parallel relationship.

Claim 41 (new): A chemical screening kit comprising:

(a) a library of strips of a non-reactive substrate extending along a longitudinal axis, each strip supporting, spaced along that longitudinal axis, different linear arrays of chemically reactive substances exposed on a surface of the strip; and

(b) a support frame for receiving and holding different combinations of a subset of the library of strips for mutual exposure to a material to be screened;

whereby a semi-custom array of reactive substances may be created.

Claim 42 (new): An array for chemical screening comprising:

(a) semi-customizable strips of a non-reactive substrate extending along a longitudinal axis and supporting, spaced along that longitudinal axis, a linear array of different, chemically reactive substances exposed on a surface of the strip; and

(b) a support frame for receiving and holding the strips for mutual exposure to a material to be screened.